

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A microchip comprising:
a plurality of supply units capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein; [[and]]
a flow pass, connected between said plurality of supply units and said reaction chamber, for said plurality of fluids to flow to said reaction chamber; and
a suction port connected to the reaction chamber,
wherein fluid from each of said supply units begins flowing toward the reaction chamber substantially simultaneously when a suction is applied to the suction port, and a configuration of said flow pass determines a sequential relationship for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.
2. (Original) A microchip according to Claim 1, wherein said configuration is selected from the group consisting of:
a dimension of a cross section of said flow pass;
a shape of a cross section of said flow pass;
a length of said flow pass; and
a relative position of each of said plurality of supply units with respect to said flow pass.
3. (Original) A microchip according to Claim 1, further comprising a suction port, disposed proximate said reaction chamber, for said plurality of fluids to be discharged from said microchip after reaction.

4. (Original) A microchip according to Claim 1, further comprising a suction unit for suctioning each of said plurality of fluids supplied from each of said plurality of supply units towards said reaction chamber.

5. (Original) A microchip according to Claim 4, wherein said suction unit is adapted to simultaneously suction said each of said plurality of fluids towards said reaction chamber.

6. (Original) A microchip according to Claim 4, wherein said suction unit is a micro pump.

7. (Original) A microchip according to Claim 1, wherein said flow pass comprises a plurality of branch flow passes respectively connected to said plurality of supply units,

wherein a configuration of each of said plurality of branch flow passes determines a sequential relationship for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

8. (Original) A microchip according to Claim 7, wherein said configuration of said plurality of branch flow passes is selected from the group consisting of:
a dimension of a cross section of said branch flow pass;
a shape of a cross section of said branch flow pass; and
a length of said branch flow pass.

9. (Original) A microchip according to Claim 7, further comprising a micro pump disposed in one of said plurality of branch flow passes.

10. (Currently Amended) A microchip according to Claim 7, further comprising a plurality of micro pumps, respectively disposed in each of said plurality of branch flow passes.

11. (Original) A microchip according to Claim 7, further comprising a valve disposed in one of said plurality of branch flow passes.

12. (Original) A microchip according to Claim 7, further comprising a plurality of micro valves, respectively disposed between each of said plurality of branch flow passes and said reaction chamber.

13. (Currently Amended) A microchip comprising:
a common flow pass;
a plurality of supply units, sequentially ~~provided~~ located on said common flow pass as a connection point between the common flow pass and the supply units and capable of supplying a plurality of fluids; [[and]]
a reaction chamber for receiving said plurality of fluids for reaction therein; and
a suction port connected to the reaction chamber;
wherein fluid from each of said supply units begins flowing toward the reaction chamber substantially simultaneously when a suction is applied to the suction port, and an arrangement order of said plurality of supply units on said common flow pass determines a sequential order for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

14. (Original) A microchip according to Claim 13, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

15. (Original) A microchip according to Claim 14, wherein said flow controller comprises a micro valve.

16. (Original) A microchip according to Claim 14, wherein said flow controller comprises a micro pump.

17. (Currently Amended) A microchip comprising:
a plurality of supply units, capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein; ~~[[and]]~~
a plurality of flow passes respectively connecting each of said plurality of supply units to said reaction chamber; and
a suction port connected to the reaction chamber;
wherein fluid from each of said supply units begins flowing toward the reaction chamber substantially simultaneously when a suction is applied to the suction port, and a configuration of each of said plurality of flow passes determines a sequential order for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

18. (Original) A microchip according to Claim 17, further comprising a flow controller for controlling a flow of at least one of said plurality of fluids to said reaction chamber.

19. (Previously Amended) A microchip according to Claim 18, wherein said flow controller comprises a micro valve.

20. (Previously Amended) A microchip according to Claim 18, wherein said flow controller comprises a micro pump.

21. (Previously Amended) A microchip according to Claim 18, wherein said flow controller is disposed in one of said plurality of flow passes.

22. (Currently Amended) A microchip, comprising:
a plurality of supply units capable of supplying a plurality of fluids for reaction;
a reaction chamber for containing said reaction; [[and]]
a plurality of flow passes respectively connecting said plurality of supply units to said reaction chamber; and
a suction port connected to the reaction chamber;
wherein fluid from each of said supply units begins flowing toward the reaction chamber substantially simultaneously when a suction is applied to the suction port, and
said plurality of fluids reach said reaction chamber in a sequence based on the respective dimensions of each of said plurality of flow passes.

23. (Original) A microchip according to Claim 22, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative distances between each of said plurality of supply units and said reaction chamber.

24. (Original) A microchip according to Claim 22, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative lengths of each of said plurality of flow passes connecting each of said plurality of supply units to said reaction chamber.

25. (Original) A microchip according to Claim 22, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

26. (Original) A microchip according to Claim 25, wherein said flow controller comprises a micro valve.

27. (Original) A microchip according to Claim 25, wherein said flow controller comprises a micro pump.

28. (Currently Amended) A microchip, comprising:
a plurality of supply units capable of supplying a plurality of fluids for reaction;
a reaction chamber for containing said reaction;
a common flow pass connected to said reaction chamber; [[and]]
a plurality of branch flow passes respectively connecting said plurality of supply units to said common flow pass; and
a suction port connected to the reaction chamber;
wherein fluid from each of said supply units begins flowing toward the reaction chamber when a suction is applied to the suction port, and said plurality of fluids reach said reaction chamber in a sequence based on the respective dimensions of each of said plurality of branch flow passes.

29. (Original) A microchip according to Claim 28, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative distances between each of said plurality of supply units and said reaction chamber.

30. (Original) A microchip according to Claim 28, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative lengths of each of said plurality of branch flow passes connecting each of said plurality of supply units to said common flow pass.

31. (Original) A microchip according to Claim 28, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

32. (Original) A microchip according to Claim 31, wherein said flow controller comprises a micro valve.

33. (Original) A microchip according to Claim 31, wherein said flow controller comprises a micro pump.

34. (Currently Amended) A method for performing a reaction in a microchip, comprising the steps of:

~~causing providing~~ a first fluid ~~to flow from~~ in a first supply unit~~[[,]]~~ coupled via a first branch flow pass~~[[, into]]~~ to a reaction chamber;

~~causing providing~~ a second fluid ~~to flow from~~ in a second supply unit~~[[,]]~~ coupled via a second branch flow pass~~[[, into]]~~ to said reaction chamber; ~~[[and]]~~

~~causing providing~~ a third fluid ~~to flow from~~ in a third supply unit~~[[,]]~~ coupled via a third branch flow pass~~[[, into]]~~ to said reaction chamber; and

applying a suction to said reaction chamber so that said first, second, and third fluids begin flowing toward the reaction chamber,

wherein said first, second and third fluids reach said reaction chamber in a sequence based on the relative dimensions of each of said first, second, and third branch flow passes.

35. (Original) A method according to Claim 34, wherein a common flow pass connects said first, second, and third branch flow passes to said reaction chamber.

36. (Currently Amended) A method according to Claim 34, wherein said first, second, and third branch flow passes are directly ~~connected~~ connected to said reaction chamber.

37. (Original) A method according to Claim 34, further comprising the step of controlling a flow of fluid from one of said first, second, and third branch flow passes

using a flow controller disposed between a respective one of said first, second, and third supply units and said reaction chamber.

38. (Original) A method according to Claim 37, wherein said flow controller comprises a micro valve.

39. (Original) A method according to Claim 37, wherein said flow controller comprises a micro pump.

40. (Currently Amended) A microchip comprising:
a plurality of supply units capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein;
a flow pass, connected between said plurality of supply units and said reaction chamber, for said plurality of fluids to flow to said reaction chamber; and
a suction unit for simultaneously suctioning each of said plurality of fluids supplied from each of said plurality of supply units towards said reaction chamber;
wherein each of said fluids begins flowing toward the reaction chamber upon operation of the suction unit, and
wherein a relative distance of each of said plurality of supply units to said reaction chamber determines a sequential relationship for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

41. (Currently Amended) A microchip comprising:
a plurality of supply units capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein;
a plurality of branch flow passes, each connected between one of said plurality of supply units and said reaction chamber, for said plurality of fluids to flow to said reaction chamber; and
a suction unit for simultaneously suctioning each of said plurality of fluids

supplied from each of said plurality of supply units towards said reaction chamber;

wherein each of said plurality of fluids is suctioned simultaneously toward the reaction chamber, and a relative dimension of each of said plurality of branch flow passes determines a sequential relationship for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

42. (Currently Amended) A method for performing a reaction in a microchip, comprising:

respectively providing a plurality of fluids in a plurality of supply units connected to a reaction chamber via a flow pass; [[and]]

applying a suction to the reaction chamber; and

controlling a flow of said plurality of fluids from respective ones of said plurality of supply units to a reaction chamber via a flow pass using a flow controller;

wherein each said fluid supplied from each said supply unit is suctioned simultaneously toward the reaction chamber, and each of said plurality of fluids reaches said reaction chamber in a sequence based on relative distances of said plurality of supply units from said reaction chamber.

43. (Currently Amended) A method for performing a reaction in a microchip, comprising:

respectively providing a plurality of fluids in a plurality of supply units connected to a reaction chamber via a plurality of branch flow passes; [[and]]

applying a suction to the reaction chamber; and

controlling a flow of said plurality of fluids from respective ones of said plurality of supply units to said reaction chamber using a flow controller;

wherein each of said fluids supplied from each said supply unit is suctioned simultaneously toward the reaction chamber, and each of said plurality of fluids reaches said reaction chamber in a sequence based on relative dimensions of said plurality of branch flow passes.

44. (New) A microchip according to Claim 1, wherein said suction port is disposed downstream of said reaction chamber and the reaction chamber is disposed downstream of said plurality of supply units, with respect to a flow direction of the plurality of fluids.

45. (New) A microchip according to Claim 1, wherein said fluids pass through the reaction chamber separately in sequence.

46. (New) A microchip according to Claim 13, wherein said suction port is disposed downstream of said reaction chamber and the reaction chamber is disposed downstream of said plurality of supply units, with respect to a flow direction of the plurality of fluids.

47. (New) A microchip according to Claim 17, wherein said suction port is disposed downstream of said reaction chamber and the reaction chamber is disposed downstream of said plurality of supply units, with respect to a flow direction of the plurality of fluids.

48. (New) A microchip according to Claim 22, wherein said suction port is disposed downstream of said reaction chamber and the reaction chamber is disposed downstream of said plurality of supply units, with respect to a flow direction of the plurality of fluids.

49. (New) A microchip according to Claim 28, wherein said suction port is disposed downstream of said reaction chamber and the reaction chamber is disposed downstream of said plurality of supply units, with respect to a flow direction of the plurality of fluids.

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50. (New) A microchip according to Claim 34, wherein said fluids pass through the reaction chamber separately in sequence.

51. (New) A microchip according to Claim 42, wherein said fluids pass through the reaction chamber separately in sequence.

52. (New) A microchip according to Claim 43, wherein said fluids pass through the reaction chamber separately in sequence.